SLOVENSKI STANDARD
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Varnost strojev - Laserski obdelovalni stroji - 2. del: Varnostne zahteve za ročne ali ročno upravljane laserske obdelovalne naprave (ISO 11553-2:2026)

Safety of machinery - Laser processing machines - Part 2: Safety requirements for hand-held or hand-operated laser processing machines (ISO 11553-2:2026)

Sicherheit von Maschinen - Laserbearbeitungsmaschinen - Teil 2: Sicherheitsanforderungen an handgeführte Laserbearbeitungsgeräte (ISO 11553-2:2026)

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Sécurité des machines - Machines à laser - Partie 2: Exigences de sécurité pour machines de traitement laser portatives ou à commande manuelle (ISO 11553-2:2026)

Ta slovenski standard je istoveten z: **EN ISO 11553-2:2026**

ICS:

13.110	Varnost strojev	Safety of machinery
31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 11553-2

October 2026

ICS 13.110; 31.260

Supersedes EN ISO 11553-2:2008

English Version

Safety of machinery - Laser processing machines - Part 2: Safety requirements for hand-held or hand-operated laser processing machines (ISO 11553-2:2026)

Sécurité des machines - Machines à laser - Partie 2: Exigences de sécurité pour machines à laser portatives ou actionnées manuellement (ISO 11553-2:2026)

Sicherheit von Maschinen - Laserbearbeitungsmaschinen - Teil 2: Sicherheitsanforderungen an handgeführte Laserbearbeitungsgeräte (ISO 11553-2:2026)

This European Standard was approved by CEN on 29 August 2026.

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SIST EN ISO 11553-2:2026

Contents

Page

European foreword **3**

Annex ZA (informative) **Relationship between this European Standard and the Essential Requirements of Regulation (EU) 2023/1230 aimed to be covered** **4**

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European foreword

This document (EN ISO 11553-2:2026) has been prepared by Technical Committee ISO/TC 172 "Optics and photonics" in collaboration with Technical Committee CEN/TC 123 “Lasers and photonics” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2027, and conflicting national standards shall be withdrawn at the latest by April 2027.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11553-2:2008.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

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Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of Regulation (EU) 2023/1230 aimed to be covered

This European Standard has been prepared under a Commission's standardization request C(2025)129 final Commission Implementing Decision of 20 January 2025 to the European Committee for Standardization and to the European Committee for Electrotechnical Standardization as regards machinery in support of Regulation (EU) 2023/1230 of the European Parliament and of the Council (M/605) to provide one voluntary means of conforming to essential requirements of Regulation (EU) 2023/1230 of the European Parliament and of the Council of 14 June 2023 on machinery (OJ L 165, 29.6.2023).

Once this standard is cited in the Official Journal of the European Union under that Regulation, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Regulation, and associated EFTA regulations.

Table ZA.1— Correspondence between this European Standard and Annex III of Regulation (EU) 2023/1230

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The relevant Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1 General remarks	—	—
1.1.2 Principles of safety integration	5.1	—
1.1.6 Ergonomics	5.9	—
1.2 Control systems	—	—
1.2.1 Safety and reliability of control systems	5.2, 5.6.4, 5.7	—
1.2.2 Control systems	5.6.6.2, 5.6.7, 5.6.8, 5.7.7, 5.10	—
1.2.3 Starting	5.6.6.3, 5.7.5	—
1.2.4.1 Normal stop	5.7.5	—
1.2.4.3 Emergency stop	5.7.4	—
1.2.5 Selection of control or operating modes	5.6.6.1, 5.10.1	—
1.2.6 Failure of the power supply or communication network connection	5.6.6.1	—
1.3 Protection against mechanical hazards	—	—

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SIST EN ISO 11553-2:2026

The relevant Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.3.1 Risk of loss of stability	5.2	—
1.3.5 Risks related to a combined machinery or related product	5.2	—
1.3.6 Risks related to variations in operating conditions	5.2	—
1.3.7 Risks related to moving parts	5.2	—
1.4 Required characteristics of guards and protective devices	—	—
1.4.2 Special requirements for guards	5.6.7, 5.6.8	—
1.4.2.3 Adjustable guards restricting access	5.6.8	—
1.5 Risks due to other hazards	—	—
1.5.2 Static electricity	5.3	—
1.5.4 Errors of fitting	5.6.2, 5.6.2.2, 5.6.2.3, 5.6.3, 5.6.6.1	—
1.5.5 Extreme temperatures	5.4, 5.6.2	—
1.5.11 External radiation	5.5	—
1.5.12 On laser radiation	5.6 all subclauses and 5.7.7	—
1.5.13 Emission of hazardous materials and substances	5.8	—
1.5.16 Lighting	Clause 7	—
1.6 Maintenance	—	—
1.6.1 Machinery or related product maintenance	7.4.6	
1.7 Information	Clause 5, 7 and 8	—
1.7.1 Information and warnings on the machinery or related product	Clause 8	—
1.7.1.1 Information and information devices	5.10, 7.4.9	—
1.7.1.2 Warning devices	5.11	—
1.7.2 Warning of residual risks	7.4	—
1.7.3 Marking of machinery or related products	Clause 8	—

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The relevant Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.7.4 Instructions for use	Clause 7	—
1.7.4.1 General principles for drafting of instructions for use	7.2	—
1.7.4.2 Contents of instructions for use	Clause 7	—
2.2 portable hand-held and/or hand-guided machinery	—	—
2.2.1 General	Clause 5, 5.1	—
2.2.1.1 Instructions for use	Clause 7	—

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

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International Standard

ISO 11553-2

Safety of machinery — Laser processing machines —

Part 2: Safety requirements for hand-held or hand-operated laser processing machines

Sécurité des machines — Machines à laser —

Partie 2: Exigences de sécurité pour machines à laser portatives ou actionnées manuellement

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SIST EN ISO 11553-2:2026

Contents

Page

Foreword ..... **v**
Introduction ..... **vii**
1 Scope **1**
2 Normative references **2**
3 Terms and definitions **4**
4 List of significant hazards **8**
4.1 General 8
4.2 Main hazards 8
4.3 Significant hazards and hazardous situations covered by this document 9
4.4 Reasons of laser radiation hazards due to emission of unintended laser radiation or a misguided laser beam 11
4.5 Laser hazards regarding application 12
5 Safety requirements and risk reduction measures **12**
5.1 General 12
5.2 Requirements related to mechanical hazards 13
5.3 Requirements related to electrical hazards 13
5.4 Requirements related to thermal hazards 13
5.5 Requirements related to incoherent radiation hazards 14
5.6 Requirements related to laser radiation hazards 14
5.6.1 General 14
5.6.2 Design to avoid laser emission by beam delivery system 15
5.6.3 Design to avoid laser emission for HLMs connected to an external laser assembly 17
5.6.4 Design to avoid laser hazards by misalignment of beam 18
5.6.5 Design to avoid laser emission by not properly designed HLH housing 18
5.6.6 Design to avoid hazardous laser radiation caused by HLH 18
5.6.7 Safety devices for scanning laser radiation (cleaning) 20
5.6.8 Protective enclosure (workplace) 20
5.7 Requirements related to control system 21
5.7.1 General requirements for safety and reliability of safety related control systems 21
5.7.2 Performance requirements 22
5.7.3 Electromagnetic compatibility requirements 24
5.7.4 Emergency stop control 25
5.7.5 Unexpected-Start-up of HLM 26
5.7.6 Laser assembly is used for several HLMs 26
5.7.7 Provisions and controls for isolation of the laser beam 26
5.8 Requirements related to Hazards related to materials and substances 27
5.9 Requirements related to ergonomic hazards 27
5.9.1 Design according to ergonomic principles 27
5.9.2 Ergonomics in design of portable hand-held and/or hand guided machinery 28
5.10 Requirements related to Hazards from/to unauthorized or third parties 28
5.10.1 Authorizing control device 28
5.11 Requirements related to hazards caused by lack or inadequacy of visual or acoustic warning means 29
6 Verification of safety requirements and measures **29**
6.1 General 29
6.2 Methods for verification and validation 29
6.3 Required verification and validation 31
6.4 Verification and validation of protective safeguards 32
7 Information for user **32**
7.1 General 32
7.2 Instruction handbook/Manual 33
7.2.1 General 33

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SIST EN ISO 11553-2:2026

7.2.2 Assembly and installation ... 33
7.2.3 Procedure plan for the initial start-up ... 34
7.2.4 Commissioning and operating ... 35
7.2.5 Selection of temporary protective measures ... 35
7.3 Verification and validation of protective measures ... 36
7.4 Information for use associated with the environment ... 36
7.4.1 Lightning information for using HLM ... 36
7.4.2 Moisture information for using HLM ... 37
7.4.3 Pollution information for using HLM ... 37
7.4.4 Snow, rain, water, wind and extreme temperatures information for using HLM ... 37
7.4.5 Use ... 38
7.4.6 Maintenance/servicing ... 41
7.4.7 Decommissioning ... 41
7.4.8 Disposal ... 41
7.4.9 System information ... 41
7.4.10 Information how to act in emergency cases ... 42

8 Labelling ... 42
8.1 Information to be indicated in labels ... 42
8.2 Label styles ... 42

Annex A (informative) **Representative types of hand-held or hand-operated laser processing machines (HLMs) ... 44**

Annex B (informative) **Example of risk assessment for HLM ... 47**

Annex C (informative) **Possible hazards related to hand-held or hand operated laser processing machines (HLMs) ... 51**

Annex D (informative) **Parameter information of a risk assessment of laser radiation and examples of calculations ... 53**

Annex E (informative) **Examples for the design of technical safety measures for hand-held or hand-operated laser processing machines (HLMs) ... 56**

Annex F (informative) **Recommendations for the selection of personal protective equipment for use with hand-held or hand-operated laser processing, machines (HLMs) ... 61**

Annex G (informative) **Design recommendations for fume extraction systems on process nozzles ... 64**

Annex H (informative) **Examples of common control devices used in hand-held laser processing machines ... 67**

Bibliography ... 70

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 9, *Laser and electro-optical systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 123, *Lasers and photonics*,in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement) and with IEC/TC 76, *Optical radiation safety and laser equipment*.

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This second edition cancels and replaces the first edition (ISO 11553-2:2007), which has been technically revised.

The main changes are as follows:

a) The document was changed to type-C standard;

b) added dates to references in the whole document and main body of the text;

c) several terms and definitions were modified or newly added;

d) the covered hazards as well as the requirements concerning the hazards were added in more detail;

e) Clause 4 was rewrote with new structure, the Table 1 was newly added, serving to list the significant hazards and hazardous situations;

f) Table 2 was newly added in Clause 4, serving to list the further hazards and hazardous situations;

g) Clause 5 was rewrote with new structure. Table 3 was newly added in Clause 5 to describe the work place safety for HLM;

h) Several subclauses of Clause 5 were rewrote with more detail;

i) Table 3 was modified in Clause 6.

j) Several subclauses of Clause 7 were added with more information;

k) several subclause headings were modified and several technical requirements were amended;

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l) some of the lists were renumbered;

m) previous Annex B was deleted, and example of risk assessment for HLM was added as Annex B;

n) new Annex C, Annex D, Annex E, Annex F, Annex G and Annex H were added.

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Introduction

This document is a type-C standard as stated in ISO 12100:2010.

This document is of relevance particularly for the following stakeholder groups representing the market players with regards to machinery safety:

a) hand-held or hand-operated laser processing machines (HLMs) manufacturers (small, medium and large enterprises); including manufacturers of sub/part machines such as devices or devices assembly related to laser radiation, as well as system integrators (small, medium, and large enterprises);

NOTE Devices or device assemblies include, but are not limited to, those for: guiding; shaping, delivery, protective, locking, control, enabling, limiting, impeding, switching, exhaust, stop, loading/feeding, scanning and warning devices.

b) health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

c) machine users/employers (small, medium and large enterprises);

d) machine users/employees (e.g. trade unions, organizations for people with special needs);

e) service providers, e.g. for maintenance (small, medium and large enterprise);

f) consumers (in case of machinery intended for use by consumers);

g) bystanders.

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The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

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The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

The purpose of this document is to prevent serious and irreversible injuries to persons and damage to property

— by listing potential hazards generated by hand-held or hand-operated laser processing machines;

— by describing the risk assessment procedure for all relevant hazards;

— by specifying safety measures and verification procedures necessary for reducing the risk caused by specific hazardous conditions;

— by providing references to pertinent standards;

— by specifying the information which is to be supplied to the user so that they can establish proper procedures and precautions at the workplace.

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